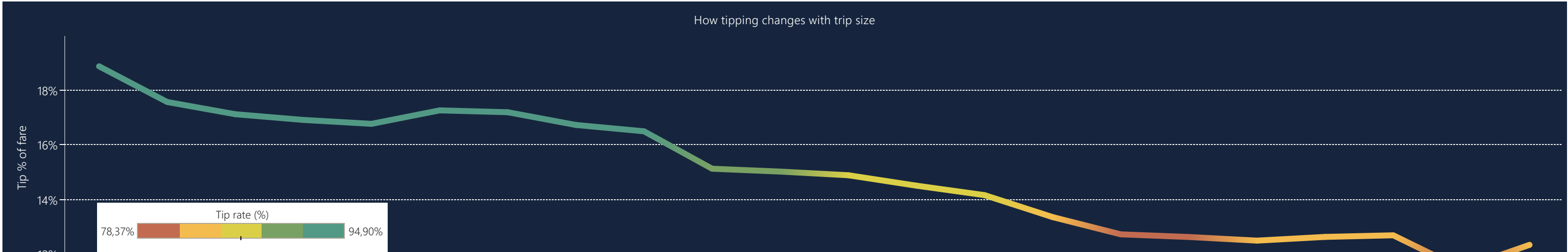
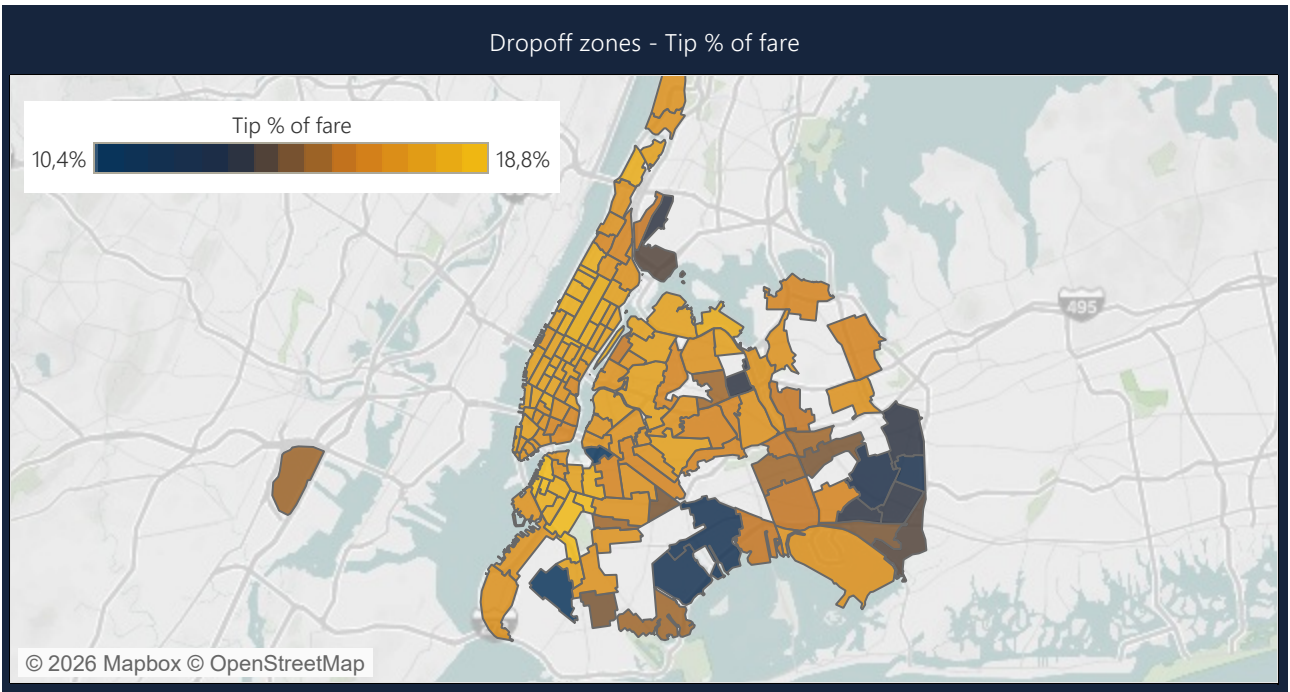
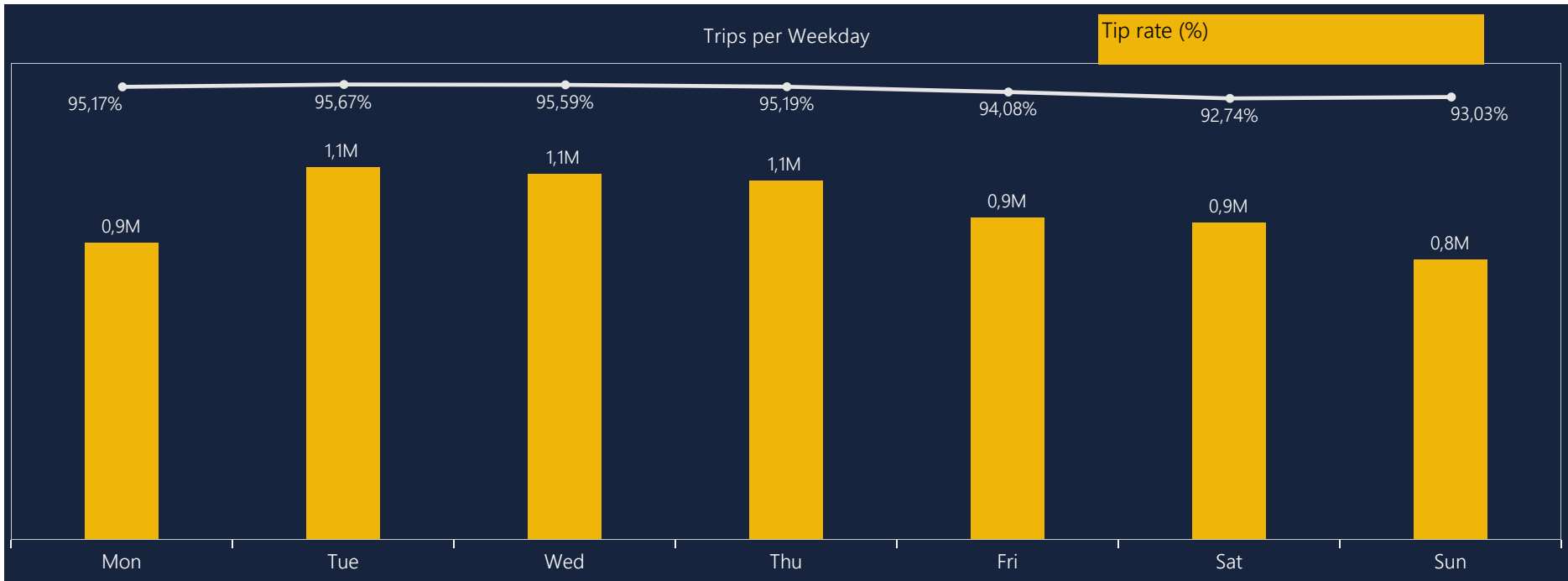
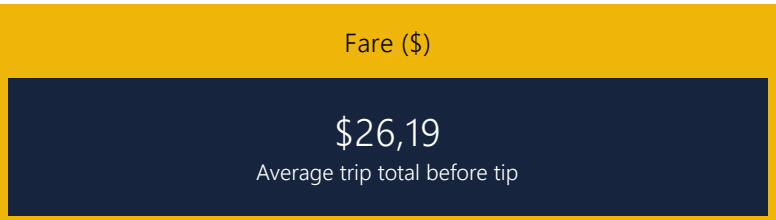
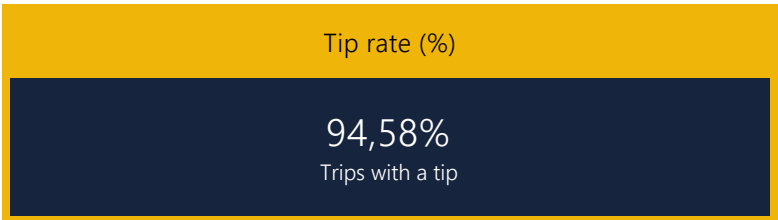
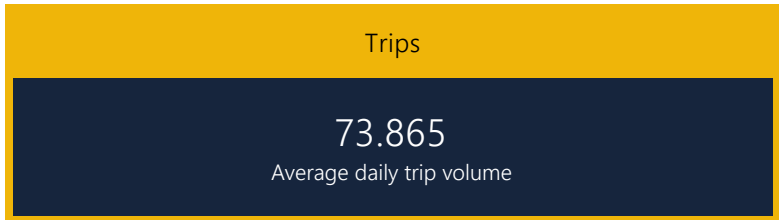


NYC Yellow Taxi Tips Analysis



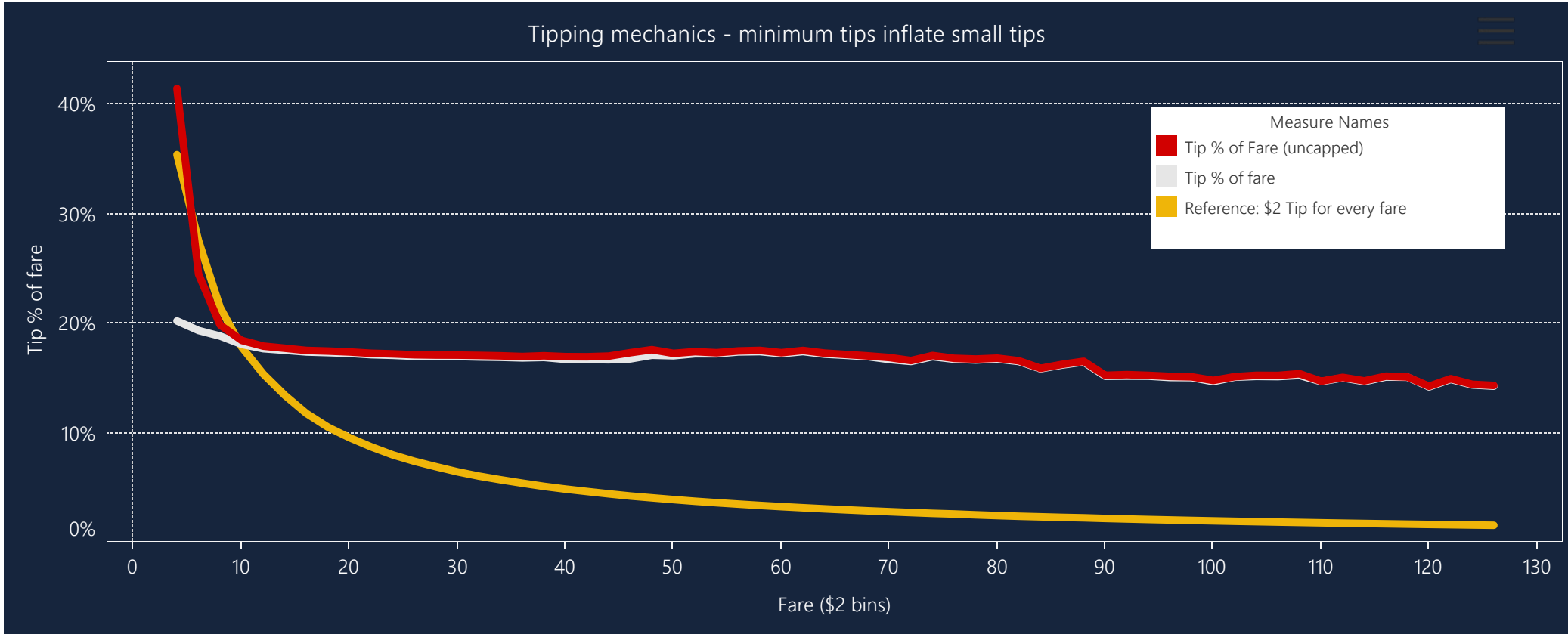
Overview

I Card Payments | Jul-Sep 2025 | 6.8M Trips | clean + capped tip rates

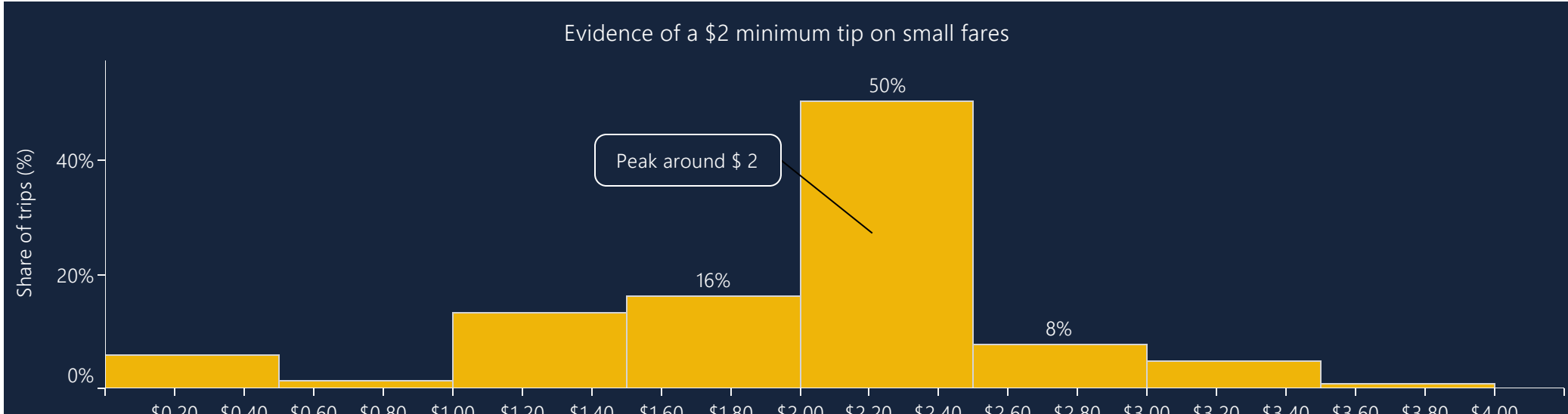


— Tipping Mechanics

Hypothesis H0: Fare amount dominates tip-rate (%)



- ▶ Minimum trips per bin = 1000 trips
- ▶ small fares (up to ~\$12): minimum tips (~\$2) are added
- ▶ when fare rises people follow preset percentages (15-20 %)
- ▶ Tip % of fare depends on fare size
- ▶ **Implication:** hypothesis tests control for fare

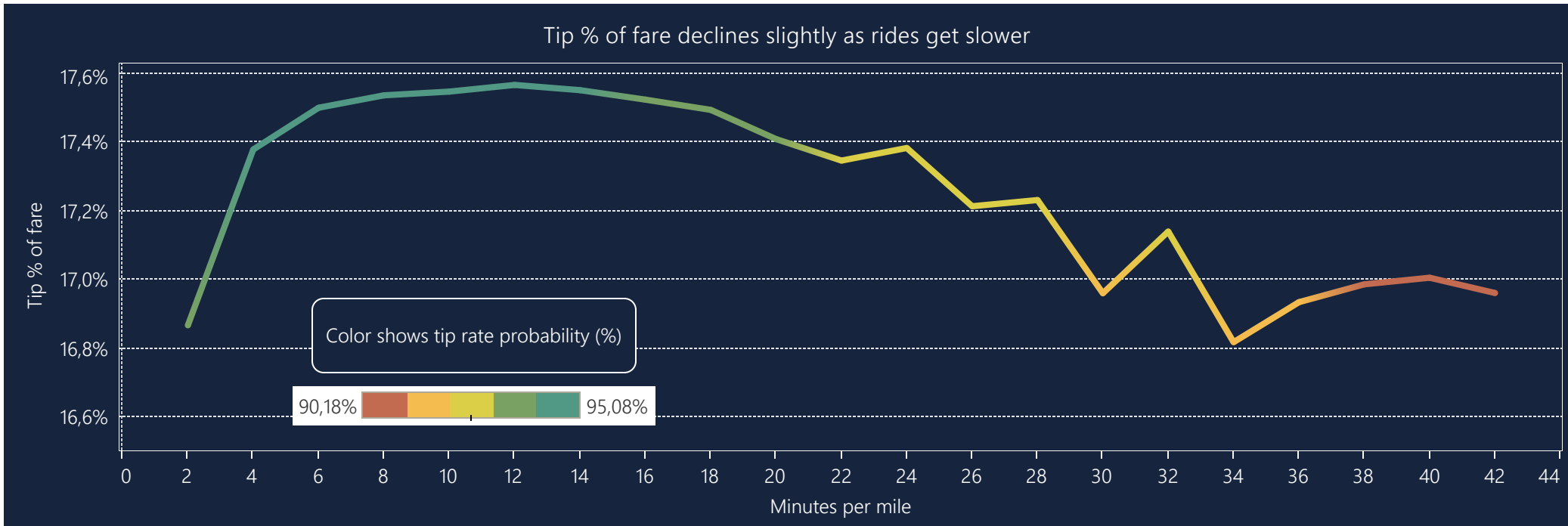


- ▶ **Focus range:** Fare \$1 - \$12 (min. 1.000 trips/bin)
- ▶ **Observed:** tips peak around \$2
- ▶ **Result:** \$2 minimum tip inflates tip % on small fares
- ▶ **Evidence:** \$2 minimum tip inflates tip % on small fares

Trip size is the #1 confounder—small trips show step-like tipping behavior, so we control for trip size in all hypothesis tests.

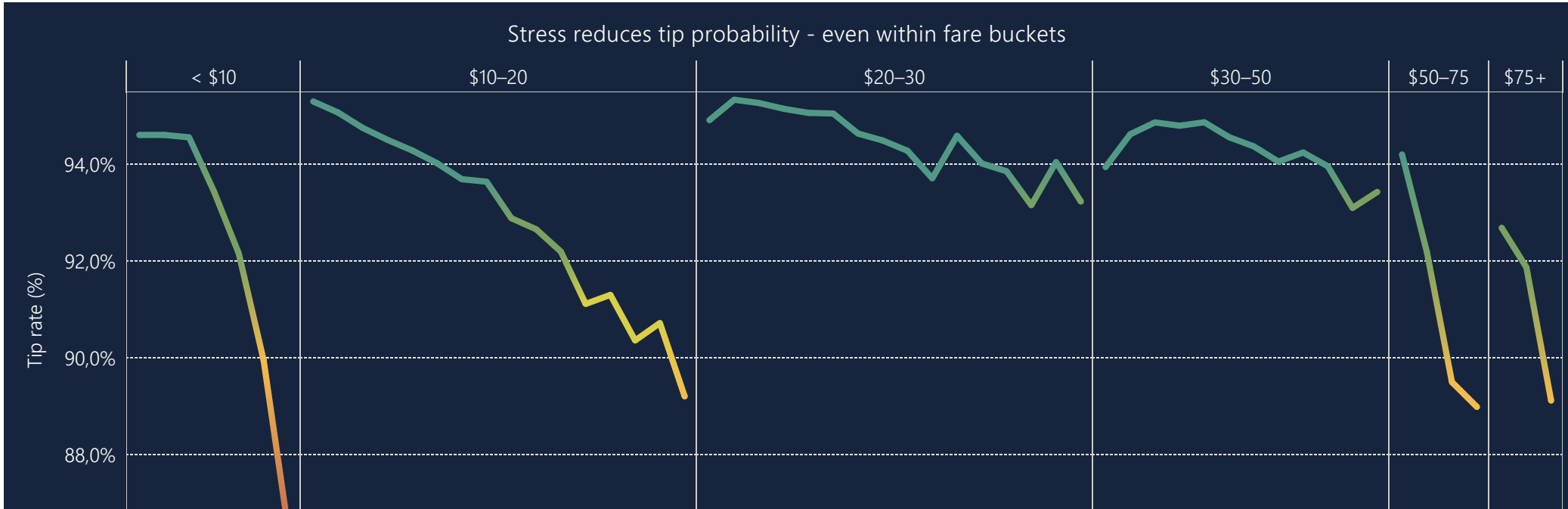
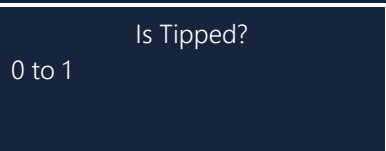
— H2 Stress / Friction: More stressful rides reduce tipping

| Stress proxy: minutes per mile (duration ÷ distance) | controlling for fare bins



- ▶ Stress proxy: minutes per mile (slower = more friction)
- ▶ Tip % of fare declines as trips get slower (-0,5 to -0,7 pp-)
- ▶ Color gradient indicates greater influence on prob. of tipping

**Stop-and-go traffic mainly reduces wheter people tip, not the tip % when they do**

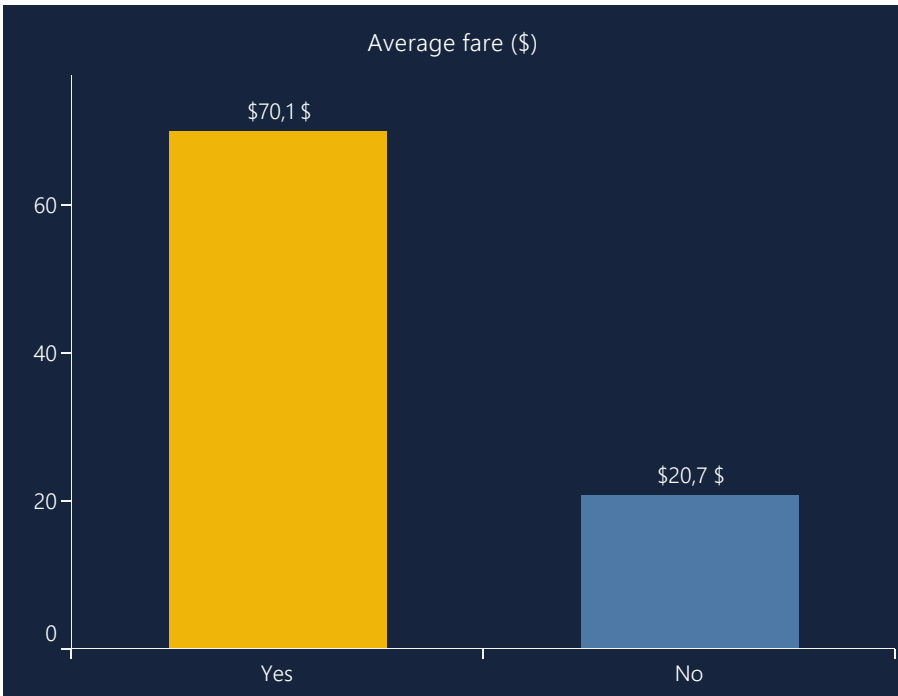
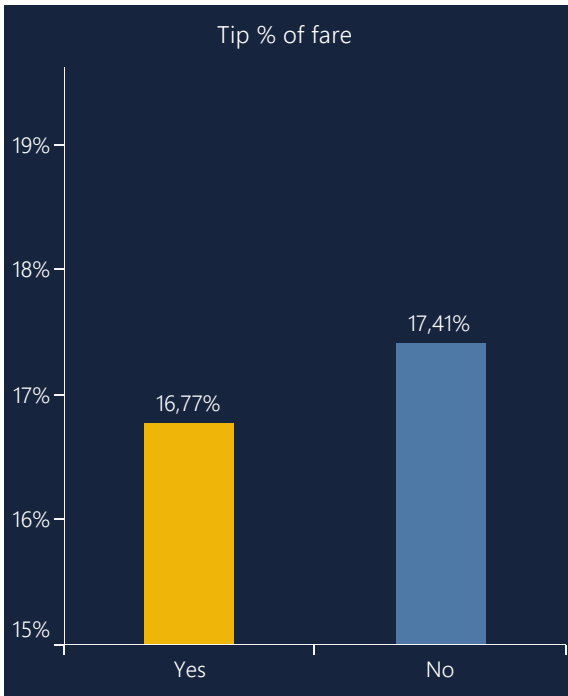
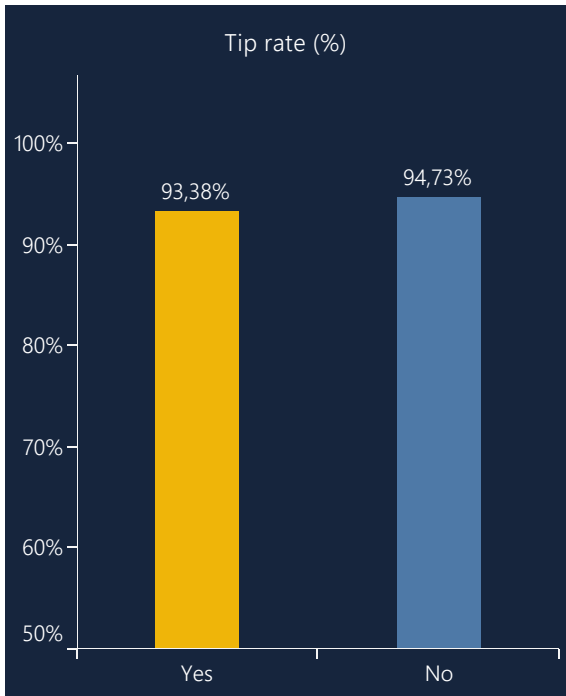


- ▶ Controlled for trip size: shown within fare buckets
- ▶ Minimum sample: ≥ 1,000 trips per bin
- ▶ Declining tipping probability in every fare bucket
- ▶ highershare of zero-tip trips. Among tipped trips, tip % is slightly higher

**The effect size is modest in percentage points, but it's directionally consistent and persists within fare buckets. Traffic friction reliably reduces the prob. of tipping**

— H3 Airport trips tip more

I Airport flag: JFK or LGA pickup ord dropoff I key confounder: fare size I compare within fare bins

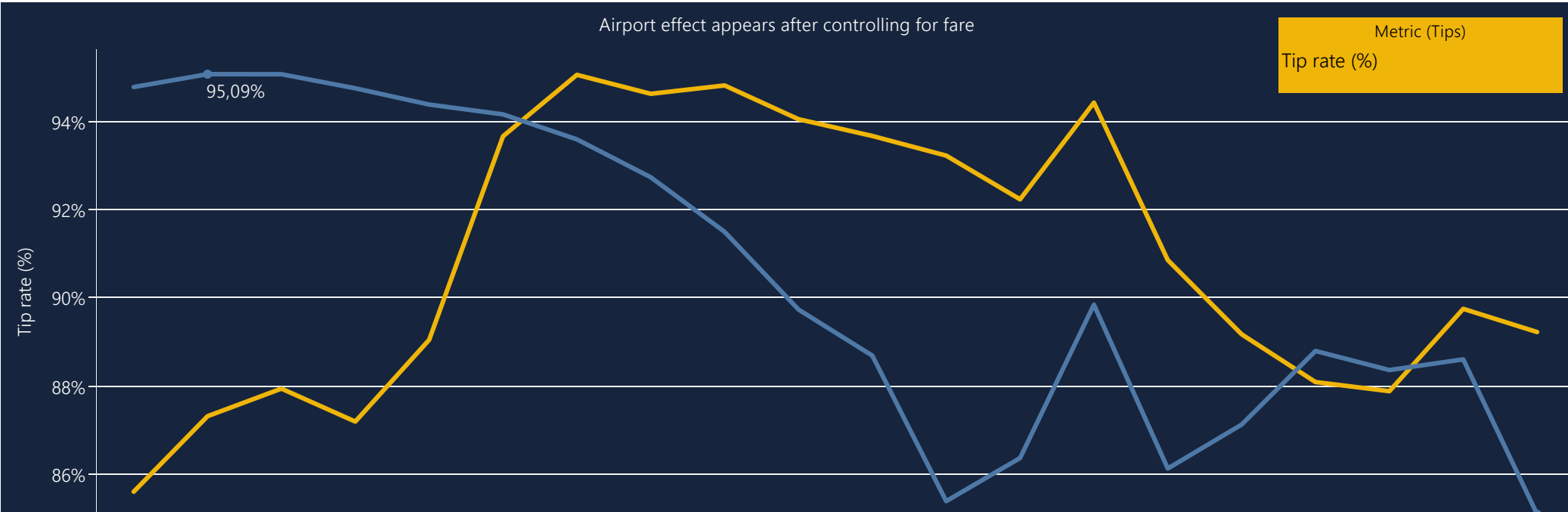


Is Airport Trip

- Yes
- No

- ▶ Overall, airport trips look lower on Tip rate and Tip % of fare
- ▶ airport trips have much higher average fare (confounder)
- ▶ tip metrics shift with fare, simple avg comparison is misleading
- ▶ next: compare airport vs. non-airport within fare bins

**Non-Airport dominates small-fare bins, airport dominate mid/high-fare bins**

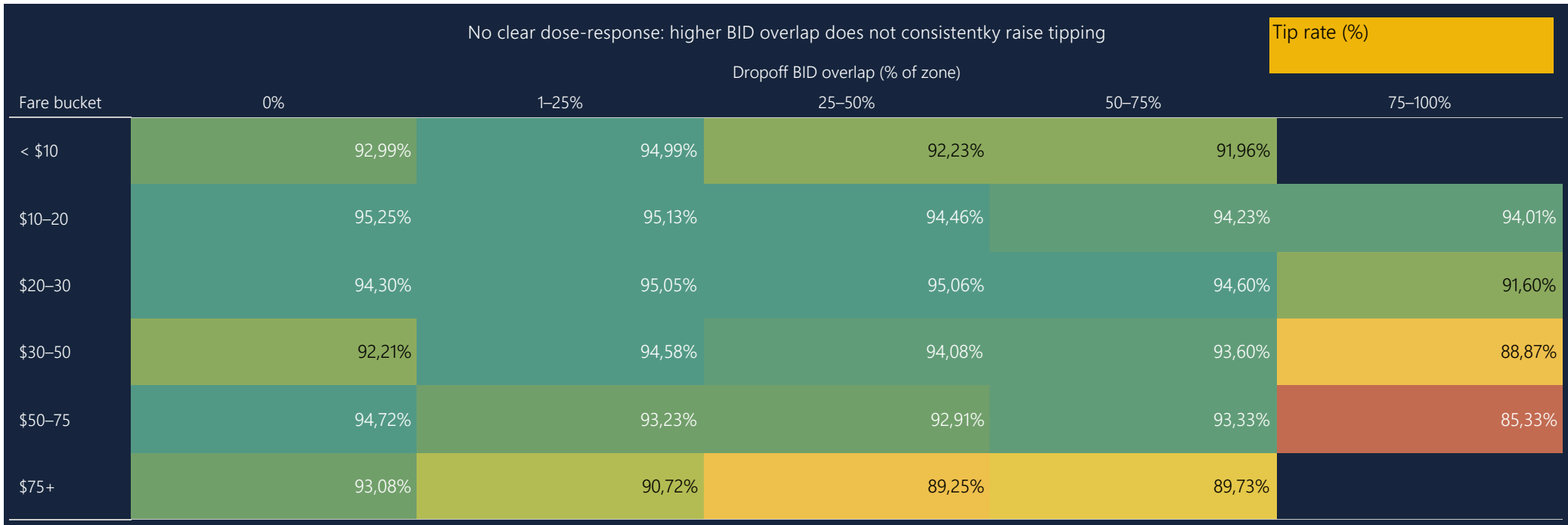


- ▶ Controlled for trip size: within fare bins (min. 1,000 trips)
- ▶ non-airport is higher in small-fare bins, airport leads in mid/high fares
- ▶ **airport effect is a conditional uplift once fare is controlled**
- ▶ **pattern is visible for Tip rate (%) and also present for tip % of fare**

**After controlling for fare, airport trips often show higher tipping - "Airport effect" is real but conditional**

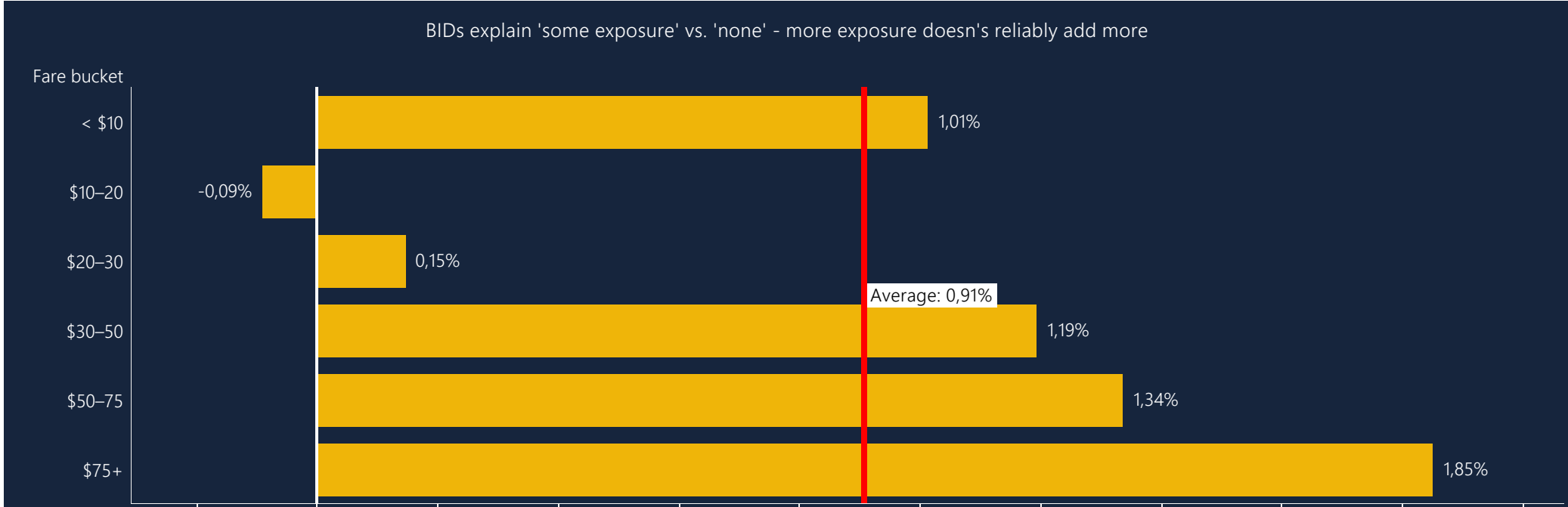
— H4 BID exposure & tipping: threshold effect

I Business improvement district (BID) exposure = dropoff zone overlap (%) I control for fare buckets I outcome: tip rate (%) / Tip % of fare



- BID exposure: share of dropoff zone area overlapping BID
- No dose-response: higher overlap does not consistently increase tipping
- Pattern looks like 'none vs some', not more is better
- Therefore we summarize Any (>0%) vs. None (0%)

BID exposure shows rather a threshold effect, not a dose-response



- Controlled for trip size: within fare buckets (min. 1,000 trips)
- nAny vs. None: tipping is often higher with some BID exposure
- **But: additional overlap doesn't reliably add more**
- **BID overlap is a proxy for area context; effect is modest but consistent in several buckets**

BIDs mainly explain 'some exposure' vs. 'none. More overlap doesn't reliably increase tipping.